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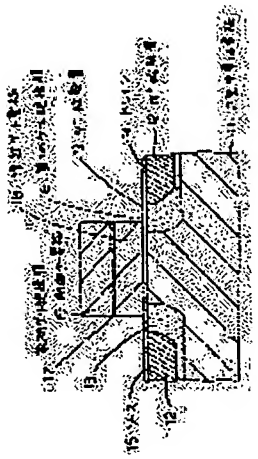
(71)Applicant : NEC CORP

(72)Inventor : KODAMA NORIAKI

(54) SEMICONDUCTOR NON-VOLATILE MEMORY DEVICE

(57)Abstract:

PURPOSE: To enable reduction in cell writing time by setting a concentration of an N--diffusion layer low enough to neglect an overlap capacity with a floating gate electrode.



CONSTITUTION: A floating gate electrode 18 is provided to one main side of a P-type semiconductor substrate 11 through a first gate insulating film 16. An upper part of the floating gate electrode 18 is provided with a control gate electrode 19 through a second gate insulating film 17. A surface of the P-type semiconductor substrate 11 is provided with an N+-diffusion layer 12 having an off-set interval to prevent it from overlapping the floating gate electrode 18 at a source 15 side and a drain 14 side. An N--diffusion layer 13 is also provided which extends to a channel region below the floating gate electrode 18 including an interval region of offset. Here, a concentration of the N-- diffusion layer 13 is set low enough to neglect an overlap capacity with the floating gate electrode 18. Accordingly, a leak current of a non-selective cell can be restrained extremely small and lowering of a bit line potential due to a leak current can be neglected.

LEGAL STATUS

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